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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/962,315	10/31/1997	GREGORY HOUSE	067183-0157	8707

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EXAMINER

AN, SHAWN S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
08/962,315

Applicant(s)
Gregory House

Examiner
Shawn An

Art Unit
2613



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 16, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 3, and 5-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 3, and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Request for Continued Examination

1. The request filed on 1/16/02 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 08/962,315 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Amendment

2. As per Applicant's instruction in Paper 18 as filed on 1/16/02, claims 2-3 and 5-10 have been amended. Applicant's remarks filed 10/15/01 as Paper 18 have been considered but they are not persuasive. The Applicant presents an argument of which Auty et al does not disclose conversion means for converting images outputted from each of the cameras into converted images whose pixel units are equal in the amount of object represented thereby. After careful scrutiny of Auty et al's reference, the Examiner must respectfully disagree, and maintain the grounds of rejection for the reasons that follow.

The matrix equation (col. 21, lines 1-6) clearly discloses a conversion for performing scaling, translation, and perspective correction (col. 21, lines 6-10). The effect is to convert images of an object with different angles/resolution to be recognized to a normalized condition (i.e., pixel units that are equal in the amount of object represented). In other words, the process of image conversion is to make each object the same size (scaling) or equal in pixel units so that an accurate comparison can be achieved with respect to the converted images. Furthermore, the Applicant's conversion means (Fig. 1) appears to apply only to camera 4 (sampling) in order to compute image depth between the images of cameras 3 and 4.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


4. Claims 2-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auty et al (5,809,161) in view of Subbarao (5,193,124).

Auty et al discloses a three-dimensional structure estimation apparatus which measures a distance to an object, comprising: a plurality of cameras (6 and 8) for producing images of the object from different angles (Fig. 3) and having different resolution from each other (Col. 4, lines 48-52) and conversion means (Fig. 17) for converting the images outputted from each of the plurality of cameras into converted images whose pixel units are equal in the amount of object represented thereby (Col. 20, lines 29-67 and Col. 21, lines 1-63) as specified in claims 2-3 and 5-10. Auty et al further discloses well known concept of computing a distance to the object (Col. 7, lines 1-39 and Col. 21, lines 59-63). However, Auty et al does not specifically disclose a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object. Subbarao discloses a depth image production section (Fig. 4) for comparing the converted images using stereo imaging (Camera 1 and Camera 2) to calculate a distance to the object (Output). Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a three-dimensional structure estimation apparatus as taught by Auty et al to incorporate the depth image production section as taught by Subbarao for comparing the converted images using stereo imaging to calculate the distance to the object.

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Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number is (703) 305-0099.


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600


SSA

March 19, 2002